AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A vacuum suction system, comprising

a vacuum leak generation part,

a vacuum generation mechanism connected to the vacuum leak generation part, and

a vacuum level adjustment mechanism connected to the vacuum leak generation part, including a negative pressure sensor to detect a vacuum level of the vacuum leak generation part, and an adjustment part to adjust the vacuum level of the vacuum leak generation part based on a signal from the negative pressure sensor,

wherein the vacuum leak generation part includes a table base disposed on a side of the vacuum generation mechanism, a circular-shaped vacuum suction channel, a conveyor table rotatably mounted on the table base, and a plurality of work receiving openings penetrating through the conveyor table for receiving works therein, the work receiving openings being spaced apart from each other and arranged in a circular pattern,

each work receiving opening being disposed inwardly or outwardly in a radial direction relative to the vacuum suction channel,

each work receiving opening being connected to the vacuum suction channel through a minute sectional suction channel provided on the conveyor table,

each of the minute sectional suction channels having a longitudinal axis extending in the radial direction from the corresponding work receiving opening only to a point that is part way across a width of the circular-shaped vacuum suction channel, thereby providing a

pressure resistance when the vacuum generation mechanism is operated, the negative pressure sensor detecting the vacuum level of the work receiving openings of the conveyor table, and

the adjustment part adjusting the vacuum level of the work receiving openings,

wherein the vacuum level adjustment mechanism includes a compressed air generation source for generating a first compressed air,

wherein the adjustment part is adapted to jet out the first compressed air from the compressed air generation source to the vacuum leak generation part based on the signal from the negative pressure sensor, and

wherein the adjustment part jets out the first compressed air based on the signal from the negative pressure sensor when the vacuum level rises above a maximum negative pressure, and stops the first compressed air when the vacuum level falls below a minimum negative pressure,

the maximum negative pressure being determined by an increased work load rate, and the minimum negative pressure being determined by a decreased work load rate,

wherein the minimum and maximum negative pressures are pressures which are less than atmospheric pressure,

wherein the minimum negative pressure is closer to the atmospheric pressure than the maximum negative pressure, and the maximum negative pressure is a lower absolute pressure than the minimum negative pressure,

wherein a jetting nozzle is disposed in ~~a working~~ work discharge region to penetrate through the table base, ~~for jetting~~ the jetting nozzle being adapted to jet a second compressed air to the work receiving openings to discharge the work in each of the work receiving openings,

wherein the works are discharged smoothly and securely by the second compressed air from the jetting nozzle, regardless of a suction power from the vacuum suction channel determined by the work load rate, and

wherein the circular-shaped vacuum suction channel is disposed on a surface of the table base facing the conveyor table, and the minute sectional suction channels are disposed on a surface of the conveyor table facing the table base.

2-6. (Cancelled)

7. (Currently Amended) A method of controlling a vacuum suction system, comprising

a vacuum leak generation part,

a vacuum generation mechanism connected to the vacuum leak generation part, and

a vacuum level adjustment mechanism connected to the vacuum leak generation part for adjusting a vacuum level of the vacuum leakage generation part, and including a negative pressure sensor to detect the vacuum level of the vacuum leak generation part, a compressed air generation source, and an adjustment part,

wherein the vacuum leak generation part includes a table base disposed on a side of the vacuum generation mechanism, a circular-shaped vacuum suction channel, a conveyor table rotatably mounted on the table base, and a plurality of work receiving openings penetrating through the conveyor table for receiving works therein, the work receiving openings being spaced apart from each other and arranged in a circular pattern,

each work receiving opening being disposed inwardly or outwardly in a radial direction relative to the vacuum suction channel,

each work receiving ~~section~~ opening being connected to the vacuum suction channel through a minute sectional suction channel provided on the conveyor table,

each of the minute sectional suction channels having a longitudinal axis extending in the radial direction from the corresponding work receiving opening only to a point that is part way across a width of the circular-shaped vacuum suction channel, thereby providing a pressure resistance when the vacuum generation mechanism is operated,

the negative pressure sensor detecting the vacuum level of the work receiving openings of the conveyor table, and

the adjustment part adjusting the vacuum level of the work receiving openings,

the method comprising the steps of:

generating a vacuum in the vacuum leakage generation part by the vacuum generation mechanism,

detecting the vacuum level of the vacuum leak generation part by the negative pressure sensor of the vacuum level adjustment mechanism, and

jetting out a first compressed air from the compressed air generation source to the vacuum leak generation part by the adjustment part of the vacuum level adjustment mechanism based on a signal from the negative pressure sensor,

wherein the adjustment part jets out the first compressed air based on the signal from the negative pressure sensor when the vacuum level rises above a maximum negative pressure, and stops the first compressed air when the vacuum level falls below a minimum negative pressure,

the maximum negative pressure being determined by an increased work load rate, and the minimum negative pressure being determined by a decreased work load rate,

wherein the minimum and maximum negative pressures are pressures which are less than atmospheric pressure,

wherein the minimum negative pressure is closer to the atmospheric pressure than the maximum negative pressure, and the maximum negative pressure is a lower absolute pressure than the minimum negative pressure,

wherein a jetting nozzle is disposed in ~~a working~~ work discharge region to penetrate through the table base, ~~for jetting~~ the jetting nozzle being adapted to jet a second compressed air to the work receiving openings to discharge the work in each of the work receiving openings,

wherein the works are discharged smoothly and securely by the second compressed air from the jetting nozzle, regardless of a suction power from the vacuum suction channel determined by the work load rate, and

wherein the circular-shaped vacuum suction channel is disposed on a surface of the table base facing the conveyor table, and the minute sectional suction channels are disposed on a surface of the conveyor table facing the table base.

8. (Cancelled)

9. (Currently Amended) A method of controlling a vacuum suction system according to the method of claim 7, wherein,

the adjustment part jets out the first compressed air intermittently based on the signal from the negative pressure sensor when the vacuum level rises above the maximum negative pressure.

10. (Previously Presented) A vacuum suction system according to claim 1, wherein the vacuum level of the work receiving openings is securely stabilized by an operation of the adjustment part regardless of the work load rate of the work receiving openings, the increased work load rate, or the decreased work load rate.

11. (Cancelled)

12. (Previously Presented) A method of controlling a vacuum suction system according to the method of claim 7, wherein the vacuum level of the work receiving

openings is securely stabilized by an operation of the adjustment part regardless of the work load rate of the work receiving openings, the increased work load rate, or the decreased work load rate.

13. (Cancelled)

14. (Currently Amended) A vacuum suction system according to claim 1, wherein ~~each work~~ of the work receiving openings in the circular pattern ~~are~~ is spaced apart in a radial direction relative to the vacuum suction channel.

15. (Previously Presented) A vacuum suction system according to claim 14, wherein each of the minute sectional suction channels connects the corresponding work receiving opening to the vacuum suction channel, which is spaced apart in the radial direction from the work receiving openings.

16. (Previously Presented) A vacuum suction system according to claim 14, wherein each of the minute sectional suction channels has a length which is less than a distance in the radial direction separating the corresponding work receiving openings and the vacuum suction channel plus the width of the vacuum suction channel.

17. (Previously Presented) A vacuum suction system according to claim 1, wherein the circular-shaped vacuum suction channel includes a first and a second circular-shaped vacuum suction channel which are spaced apart form each other in the radial direction, and

the work receiving openings are spaced apart from each other and are arranged in two circular patterns, both of which are located between the first and the second circular-shaped vacuum suction channels.

18. (Currently Amended) A method of controlling a vacuum suction system according to the method of claim 7, wherein each ~~work~~ of the work receiving openings in the circular pattern ~~are~~ is spaced apart in a radial direction relative to the vacuum suction channel.

19. (Previously Presented) A method of controlling a vacuum suction system according to the method of claim 17, wherein each of the minute sectional suction channels connects the corresponding work receiving opening to the vacuum suction channel, which is spaced apart in the radial direction from the work receiving openings.

20. (Previously Presented) A method of controlling a vacuum suction system according to the method of claim 17, wherein each of the minute sectional suction channels has a length which is less than a distance in the radial direction separating the corresponding

work receiving openings and the vacuum suction channel, plus the width of the vacuum suction channel.

21. (Previously Presented) A method of controlling a vacuum suction system according to the method of claim 7, wherein the circular-shaped vacuum suction channel includes a first and a second circular-shaped vacuum suction channel which are spaced apart form each other in the radial direction, and

the work receiving openings are spaced apart from each other and are arranged in two circular patterns, both of which are located between the first and the second circular-shaped vacuum suction channels.